

# Benefits and Potential Harms of Cancer Screening

The U.S. Preventive Services Task Force (USPSTF) or authoritative professional societies focused on cancer care meticulously review the available scientific evidence to weigh potential risks of screening for a specific cancer type against benefits of screening for it before the cancer screening guidelines are issued for the general public. Benefits of USPSTF-recommended routine cancer screening are substantial and typically outweigh potential harms from the procedure, as described below. However, it is also important to note that benefits-to-potential harms ratio can vary for different population groups as well as for individuals at different points in their lives.

## BENEFITS OF SCREENING



### Reduced Cancer Incidence

If a screening test detects precancerous lesions, removing these lesions can reduce, or even eliminate, an individual's risk of developing the screened cancer.

### Reduced Likelihood of Advanced Disease

If a screening test detects cancer at an early stage of development, it can reduce an individual's risk of being diagnosed with the screened cancer at an advanced stage.

### Reduced Cancer Mortality

If a screening test detects cancer at an early stage of development, it can increase the likelihood that a patient can be successfully treated.

### Informed Behavioral Changes

If a screening test detects cancer, it can also indicate that making behavioral changes—for example eliminating exposure to cigarette smoke if a screening test finds early signs of lung cancer—will reduce the chances of developing another cancer caused by that behavior.

All these possibilities may increase quality of life and reduce an individual's risk of dying from the screened cancer.

## POTENTIAL HARMS OF SCREENING



### Adverse Events

Screening tests could carry minimal but measurable risks of side effects. For example, colonoscopy can potentially cause a puncture, cut, or tear in the wall of the colon.

### Anxiety

Screening tests could cause unnecessary anxiety for individuals who do not have the disease.

### False-positive Test Results

Screening tests could give false-positive results in individuals who do not have the screened cancer, leading to additional unnecessary medical procedures, treatments, and anxiety.

### False-negative Test Results

Screening tests could sporadically give negative results in individuals who are not free from the screened cancer, leading to missed opportunities for early treatment and/or behavioral changes.

### Overdiagnosis and Overtreatment

Screening tests could sometimes overdiagnose, i.e., detect precancerous lesions or cancers that may not go on to cause symptoms and threaten life, leading to overtreatment with its own potential harms and costs.